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AUTHOR Hiebert, Bryan; Mendaglio, Salvador
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ABSTRACT

It appears that stress results from an imbalance between the demands people face and their resources for dealing with those demands, rather than from the demands alone. This study addressed the interplay between environmental events, personal attempts to cope with the demands of those events, and the effect that environmental demand and personal coping have on a school principal's perception of stress. Elementary and secondary school principals (N=429) in Alberta, Canada completed a survey measuring demographic information; fluctuations in stress levels over the school year and the reciprocal influences between job and nonjob stressors; the procedures principals used to control stress; and the relationship between demands, perceived coping effectiveness, and stress for both job and nonjob demands. The results revealed that the principals considered their jobs to be moderately stressful, with stress levels varying throughout the school year. Stress levels were reported to be higher in job settings than in nonjob settings. Most principals reported using few skills that have been demonstrated to be successful for controlling stress. The positive relationship found between demand and stress, coupled with the negative relationship found between stress and perceived coping effectiveness, suggests that people who perceive themselves as coping effectively with the demands they face generally are not very stressed. (NB)

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THE UNIVERSITY OF CALGARY
2500 University Drive N.W., Calgary, Alberta, Canada T2N 1N4

FACULTY OF EDUCATION
Department of Educational Psychology

Telephone (403) 220-5651

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Bryan Hiebert

and

Salvador Mendaglio

Department of Educational Pslsychology

University of Calgary

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A Transactional Look At School Principals

A virtual consenus now exists regarding the transactional nature of stress (Torestad, Olah, & Magnusson, 1985), holding that stress results from an imbalance between the demands people face and their resources for dealing with those demands, rather than from the demands *per se* (Hiebert, 1987, in press; Kasl, 1984; Magnusson, 1982). However, this consensus has been slow to surface in the literature on stress in the school system. Most often studies investigating stress in the school system are conceptually weak because they equate stress with demand and fail to account for the role of personal coping endeavours in people's experience of stress. This study was undertaken to address the interplay between environmental events, personal attempts to cope with the demand charactistics of those events, and the effect that environmental demand and personal coping have on a principal's perception of stress.

Theoretical Framework

From an transactional perspective, stress is an individual's physiological and psychological response to situations that approach or exceed the person's perceived coping resources (Hiebert, 1987, in press; Kasl, 1984; Magnusson, 1982). Coping behaviours are individual attempts to deal with the demands of the situation. Demands are of two types: pressures and stressors. Pressures are demands that are perceived by the individual to lie within the person's coping ability. Stressors are demands where there is a perception of coping insufficiency. The greater the perceived coping inadequacy, the more stress the person

experiences. (NOTE. Although some writers refer to people's attemps to "cope with stress", we use the term coping in a more restrictive way to refer to people's attempts to deal satisfactorily with the demands they face.)

Figure 1 depicts a typical sequence of events. When people encounter a demand, there is an automatic striving to cope with the demand (Shaffer,1982). Initially, people evaluate the demand characteristics of the situation, the coping resources that can be brought to bear on the situation, and the consequences involved. If the demand decreases, or if people perceive their coping attempts to be succeeding, the system begins to return to normal and the person feels better. However, if the demand continues and the person perceives the coping attempts to be inadequate, the demand becomes a stressor. Some physical conditions (e.g., extreme cold or heat, viruses, pollution) impose demands on an individual's coping resources directly. The demand characteristics of other physical or psychological conditions (e.g., rush hour traffic, divorce, rude comments) result from people's evaluations of those situations. Some demands are so intense that they exceed most people's coping resources. However, in other cases, people perceive their coping capabilities as being so meager that many situations result in a stressful reaction even though most people would judge those situation to be benign.

One main implication of an transactional perspective is that no situation is inherently stressful, provided the person has an adequate and appropriate repertoire of coping skills. Practically speaking though, some situations involve such heavy demands that

they will, quite predictably, overtax most people's coping resources. Further, every person will probably have at least some experiences that will exceed that person's coping capabilities. Finally, some people have such limited coping repertoires that almost every demand is perceived to be stressful. In each of these cases however, the cause of the stress is the same: the individual perceives that his or her coping resources are inadequate to deal with the situation.

The bulk of research on stress in the educational system has subscribed to an environmental model and has failed to address the role that people's coping attempts play in their stressful experiences. Typically, subjects are given a list of demanding situations and asked to indicate how stressful they find those situations--people's abilities to cope with the demands usually are not considered. Such investigations seem to begin with the assumption that school administrators (or teachers or students) are stressed, and then undertake to identify the stressors (For examples see Brimm, 1983; Hembling & Gilliland, 1981; Koff, Laffery, Olson, & Chichon, 1979; Manera & Wright,1981.) The stressors most commonly identified for administrators include: complying with legislated organizational rules, meetings, paper work, public relations, parent-school conflicts, making decisions that affect the lives of staff members, staff evaluations, telephone interruptions, forced resignations, preperation for a strike, refusal of teachers to follow policy, and threat of job security (Brimm, 1983; Koff et al., 1979; Swent & Gmelch, 1977). In all of these studies, there was little attention given to the

interplay between the intensity of the demand, the individual's response (i.e., the amount of stress), and the person's skill at meeting the demand (coping adequacy). There is a need to adopt a more contemporary perspective for research investigating stress in the educational system.

This study expanded the traditional approach to investigating school principal stress by assessing demands school principals face, their perceived effectiveness in dealing with those demands, and the stress they experienced. Further, the investigation tapped both job and nonjob demands and the degree to which these influenced each other. Finally, the study sought to identify the proceedures principals use to cope with stress and to identify demographic differences across the above dimensions.

Method

Survey Instrument

There were four sections to the survey instrument. Section one requested demographic information. Section two assessed fluctuations in stress levels over the school year and the reciprocal influences between job and nonjob stressors. Section three tapped the procedures principals used to control stress. Section four investigated the relationship between demands, perceived coping effectiveness, and stress for both job and nonjob demands.

The Administrator Stress Index (Gmelch, 1982) was used to develop items pertaining to job-related demands in this study. Items on the ASI which cued a stressful response were changed to be more neutral (e.g., "Imposing excessively high expectations on

myself" was changed to "Meeting my own high expectations") and some questions were reworded to describe activities, rather than feelings about activities (e.g., "Feeling that I am not fully qualified to handle my job" was changed to "Doing my job with my present level of qualification"). Also, one item dealing with conflict resolution was added. This resulted in 36 items. A parellel form was used to generate items pertaining to nonjob demands. A small sample of school principals were interviewed to determine a pool of nonjob related demands they faced. These were clustered in categories approximating the nonjob equivalents of the clusters contained in the ASI. This resulted in 32 items.

Respondents were asked to rate each item stem on four scales: frequency of encounter, intensity of demand, amount of stress, and perceived coping effectiveness. Each rating utilized a scale ranging from 0 to 5. For frequency the anchors were 0=not at all and 5=several times per day. For intensity of demand, the anchors were 0=no demand and 5=the situations that you find the most demanding of any you encounter. For stress, the anchors were 0=no stress at all and 5=your reaction in situations that you find the most stressful. This method for quantifying emotional reaction has been used clinically with great success (Cotler & Guerra, 1976; Hiebert & Fox, 1981; Wolpe, 1969). We judged this way of quantification to be superior to the usual procedure of asking people how stressful they found different situations because each subject would use the same anchor points in the quantification, i.e., the most intense raction for them, or no reaction at all. Therefore, the results should be more comparable across subjects.

Finally, the anchors for the coping effectiveness scale were 0=not at all effective and 4=totally effective. This questionnaire format had been pilot tested with positive results (Hiebert & Basserman, 1986; Martin, 1987).

Sample

A mail out survey was conducted during the middle of February 1987. This time was chosen because previous research indicated this was a relatively stable and calm time of the school year (Hembling & Gilliland, 1981; Hiebert & Basserman, 1986). All school districts in Alberta were invited to participate in the study. Questionnaires were sent to a random sampling of principals in participating districts. The potential sample was constructed to represent roughly the same proportion of urban and rural schools, and elementary, junior high, and senior high schools as exists in the province as a whole. The final sample of 429 represents a 60 % return rate.

The sample consisted of 379 men and 48 women. About half of them (208) had a Bachelor's degree, 171 had a Master's degree, 32 had a graduate diploma in administration, and 8 were Ph.D.'s. Most of the participants (222) were between 35 and 45 years old, 354 of them had more than 15 years of experiene in school systems, and 314 had been principals for more than 5 years. Thus, the sample probably represents a similar mixture of age, experience, and training as is found in many school districts.

Results

Descriptive Results

Generally speaking, this group of principals viewed their

jobs as being moderately stressful. In response to the question "Generally speaking, how stressful do you find your job?" Kyriacou & Sutcliffe, 1978, 1979), the responses ranged from 0 to 5 on a scale where 0=no stress at all to 5=the situations that create the highest levels of stress for you. The mean response was 2.99. Stress levels varied throughout the school year from a low in October/early November (Mean=2.2) and January/February (Mean=2.6), to a high in early September (Mean=3.0) and late June (Mean=3.7). This replicates the pattern reported earlier by Hembling and Gilliland's (1981) and Hiebert and Basserman (1986). Thus, the time of year of year at which stress investigations are conducted might influence the nature of the responses obtained.

The finding that most of the principals in our study do not find their jobs to be highly stressful at any time during the school year is consistent with earlier reports regarding moderate intensity of school administrator stress (see Jankovic, 1983; MacPherson, 1985). However, that is not to say that our sample did not contain any stressed principals. About 36% of our sample reported extreme levels of job-related stress, equal to or approaching the highest levels of stress experienced by those people. On the other hand, about 12% reported negligible stress levels. This is somewhat higher than the usual pattern reported in reviews of teacher stress (cf. Hiebert, 1985; Hiebert & Farber, 1984) where 25% report extremely high or extremely low stress levels and 50% of the sample falls in the middle range. Thus it would seem that the stress levels of our sample of principals were somewhat higher than those reported for classroom teachers.

In order to address the relationship between stress experienced in job and nonjob settings, principals were asked to indicate stress levels in these two settings and the extent to which stress in one area contributed to the other. Stress levels were higher in job settings (Mean=3.0) than nonjob settings (Mean=1.84). These principals estimated that about 70% of their general stress level stemed from their job situations and that there was a moderate amount of "spill over" from stressful work experiences to outside of work situations.

Stress management. In order to assess the stress management practices of our respondents, one section of the questionnaire asked principals to indicate how frequently they they engaged in various strategies that are often included in programs for managing stress (cf. Greenberg, 1984; Mason, 1980). Generally speaking, most principals practiced few skills that have demonstrated success for controlling stress. Only 9% of the respondents used meditation or some form of deep relaxation frequently enough to have a therapeutic effect. About 30% of them exercised with sufficient frequency and intensity to engender the therapeutic effects associated with aerobic exercise (cf. Cooper, 1970; Ledwidge, 1980). The only high use activity approximating a traditional stress control procedure to be used frequently enough to have a therapeutic effect was to "focus on the positive" (64% doing this on a daily basis). These principals were more likely to use, on a daily basis, common activities like watching television (45%), listening to music (39%), or reading (51%) to reduce stress. About half of them (49%) used some informal form

of social support (e.g., consult with a friend or colleague) at least each week for the explicit purpose of reducing stress, although the use of formal support groups was small (11%). It important to recall that the stress levels of these principals were not high and therefore they might not have perceived a need to acquire skills aimed directly at controlling a stressful reaction. However, it would appear that if the coping resources of these principals should be overtaxed, they would have few skills for dealing with the resulting stress they would experiece.

Comparative Results

The results pertaining to perceived intensity of demand, coping effectivenes, and stress in various job-related and nonjob-related situations confirm the moderate levels of stress described above. The average response on the stress scale was 2.55. On the other hand their perceived coping effectiveness was high, averaging 3.53. The responses on these scales offer some support for a reciprocal relationship between stress and perceived coping effectiveness. Two-thirds of the items rated lowest on the coping scale were at the top of the stress scale and half of the items at the top of the coping scale were lowest on the stess scale. There were no items that were at the top of both the coping and stress scales and no overlap between the least stressful items and those coped with least effectively. A similar pattern existed for both job and nonjob demands. It would appear that one reason why stress levels were moderate for this group was that perceived coping effectiveness was high.

Correlations between the dependent measures offered further

support for the reciprocity between perceived coping effectiveness and stress. Principals who encountered more frequent demands found the demands more intense (r=.41, p<.01) and experienced them as more stressful (r=.82, p<.01). Conversely, principals who experienced more intense stress pertaining to job demands perceived themselves as coping less effectively with those demands (r=-.19, p<.01). A similar pattern existed for nonjob demands. Frequency of demands was related to intensity (r=.67, p<.01), demand intensity was related stress (r=.86, p<.01), and stress was inversely related to perceived coping effectiveness (r=-.29, p<.01). Further, correlations between job and nonjob subscales ranged from .65-.71 suggesting similar patterns of demands, stress, and coping adequacy on both fronts.

To check for demographic differences, multiple MANOVAs were conducted using in the total scores on the frequency, demand, stress, and coping effectiveness scales as dependent measures. For the most part, no statistically reliable differences were found. On both the job and nonjob scales, responses were similar regardless of whether the principals were: males or females, taught in rural or urban settings, or had different teaching loads, experience within the school system, experience as an administrator, age, or levels of certification. Three exceptions to the above general findings were that principals in schools of 200 or less students reported encountering less frequent demands than principals in larger schools [F(4,242)=4.71, p<.01]. Also, principals with 100% teaching loads (typically in small rural schools of 3 teachers of less) and those having no teaching

responsibilites reported facing less frequent job demands than their colleagues whose jobs involved sharing teaching and administrative responsibilities [$F(6,240)=3.10$, $p<.01$]. Finally, principals aged 46 or older experienced less frequent and less intense nonjob demands [$F(2,256)=5.61$, $p<.01$ and $F(2,256)=4.96$, $p<.01$ respectively] and lower nonjob-related stress [$F(2,256)=3.60$, $p=.03$].

Coping Sufficiency

Several interesting obsetvations emerged from examining the frequency, demand, stress, and coping effectiveness responses to the ASI items. First, the most frequently encountered demands faced by these principals were: frequent interruptions either by other people or telephone calls, supervising or coordinating school activities, keeping up with written communications, having responsibility with insufficient authority, excessive work load, and living up to their own high expectations. For the most part principals saw themselves as having adequate skills to handle these demands and stress levels in these situations were low. Two exceptions were dealing with the demands created by their own high expectations and fitting their work loads into their working day. Principals saw their skills as somewhat lacking in these areas and stress levels were moderately high. Other demanding situations were encountered less frequently but were experienced as moderately stressful when they did occur. These were: evaluating staff members, making school-related decisions that affected people's personal lives, and resolving interpersonal conflicts between teachers, parents and school, or teachers and principals.

These results suggest that the principals in our study might profit from staff training in areas like time management, staff evaluation, and conflict resolution.

Summary

Generally, stress levels of the principals in this study were in the middle range, half way between stress free and the level of intensity associated with the most severe stressors they encounter in their lives. The majority of stress they experienced in their lives came from job-related areas. In their jobs they encountered frequent and varied demands, but generally saw themselves as coping effectively with those demands. There were few statistically reliable demographic differences in the response patterns of participants. There was modest support for a transactional view of stress in that there were small but statistically reliable negative correlations between stress and the effectiveness with which participants perceived themselves as coping with situational demands. This relationship was consistent for both job and nonjob situations.

Discussion

From a transactional perspective, the interplay betweeen demands and perceived coping effectiveness accounts for the intensity of a person's stress reaction. Our study lends modest support for this conceptualization of stress, and suggests that the transactional relationship is consistent across job and nonjob demands. The positive relationship between demand and stress, coupled with the negative relationship between stress and perceived coping effectiveness, suggests that people who perceive

themselves as coping effectively with the demands they face generally are not very stressed. This notion is supported further by the observation that in general the stress levels of the principals were low, while their perceived coping effectiveness generally was high.

This study replicates also previous research suggesting that school principals experience moderate levels of stress, but extends that research by suggesting that one reason for modest stress levels might be that principals have sufficient skill to deal effectively with the demands they face. For the most part, principals in our study saw themselves as having sufficient skill repertoires to handle the demands they encountered most frequently in their jobs. In situations where skill sufficiency was marginal, stress levels tended to be higher.

One additional strength of this study is the manner in which we asked participants to quantify stress. First, we asked for a discrimination between situational demands and intensity of stress reaction. Second, we asked participants to quantify their responses in a manner that would permit valid aggregation across participants while allowing for the subjective nature of the person's response. All respondents used the same anchor points in their evaluations: 5 represented the individual's most intense reaction and 0 represented no stress at all. Therefore, although one person's reaction in a given situation might be different from another's, the relative ratings (i.e., how this reaction compares to the person's most intense and least intense reactions) were still comparable.

Recently, some researchers (e.g., Blase, 1984; Blase & Greenfield, 1985; Milstein & Golaszewski, 1985) have begun to address the ways in which school teachers cope with stress. It is time that similar investigations were aimed at school administrators. We see our study as an initial step in that direction.

Implications

Studies like the one reported here have potential application in the area of intervention planning. (See Figure 2.) Traditionally, stress control in organizations has been approached by attempting to change demanding aspects of the work environment, while stress control with people has taken the form of teaching relaxation, meditation, cognitive restructuring, or some other method for helping people be more calm. Transactional models of stress in general, and our data in particular, suggest that an equally viable alternative for controlling stress might be to teach people more effective ways to cope with the situational demands they face. Stress levels tended to be lower in situations where coping effectiveness was higher.

When certain situations are identified as stressful, a logical first step is to attempt organizational change to remove or reduce the demand. However, in many cases it is not possible or not appropriate to undertake such change. In such cases, a viable alternative might be to initiate skill training to provide people with more effective ways to handle the demand. Logically, when principals learn more effective time management procedures, they will find time pressures less stressful. When they learn

more effective ways to resolve interpersonal conflicts, they will be lessed stressed when they encounter those types of situations. Similarly, when they learn improved methods for program evaluation, they will be less likely to feel stressed by the recent move towards greater accouountability in the school systems. On the other hand, sometimes demands are not excessive and principals' coping repertoires seem adequate for the situations, however, stress levels are high. In these cases, traditional stress management approaches aimed at helping to calm the physiological, cognitive, or behavioural components of the stress response are appropriate (see Hiebert, 1933, in press).

Thus, Figure 2 can become a guide for planning staff development as well as a framework for approaching stress control. A first step would be to determine the situations that principals find demanding, the effectiveness with which they cope with those situations, and the level of stress they experience in those situations. A questionnaire like the one used in this study might be used for that purpose, or a more open ended approach (cf. Blase, 1986) might be used to generate item stems that could be used in turn to assess frequency and intensity of demand, coping effectiveness, and stress levels. The prime candidates for staff training would be those areas where organizational change was not possible, demand frequency was high and intense, and coping effectiveness was low. The result of such staff training would likely be increased job effectiveness as well as lower stress levels amongst principals. This approach would be particularly appropriate for that 36% group of principals in our study who

reported extreme levels of stress associated with their jobs. It is our hope that these results will be an heuristic for expanding the way in which people investigate school principal stress and open the way for new and more extensive approaches for dealing with stress in the school system.

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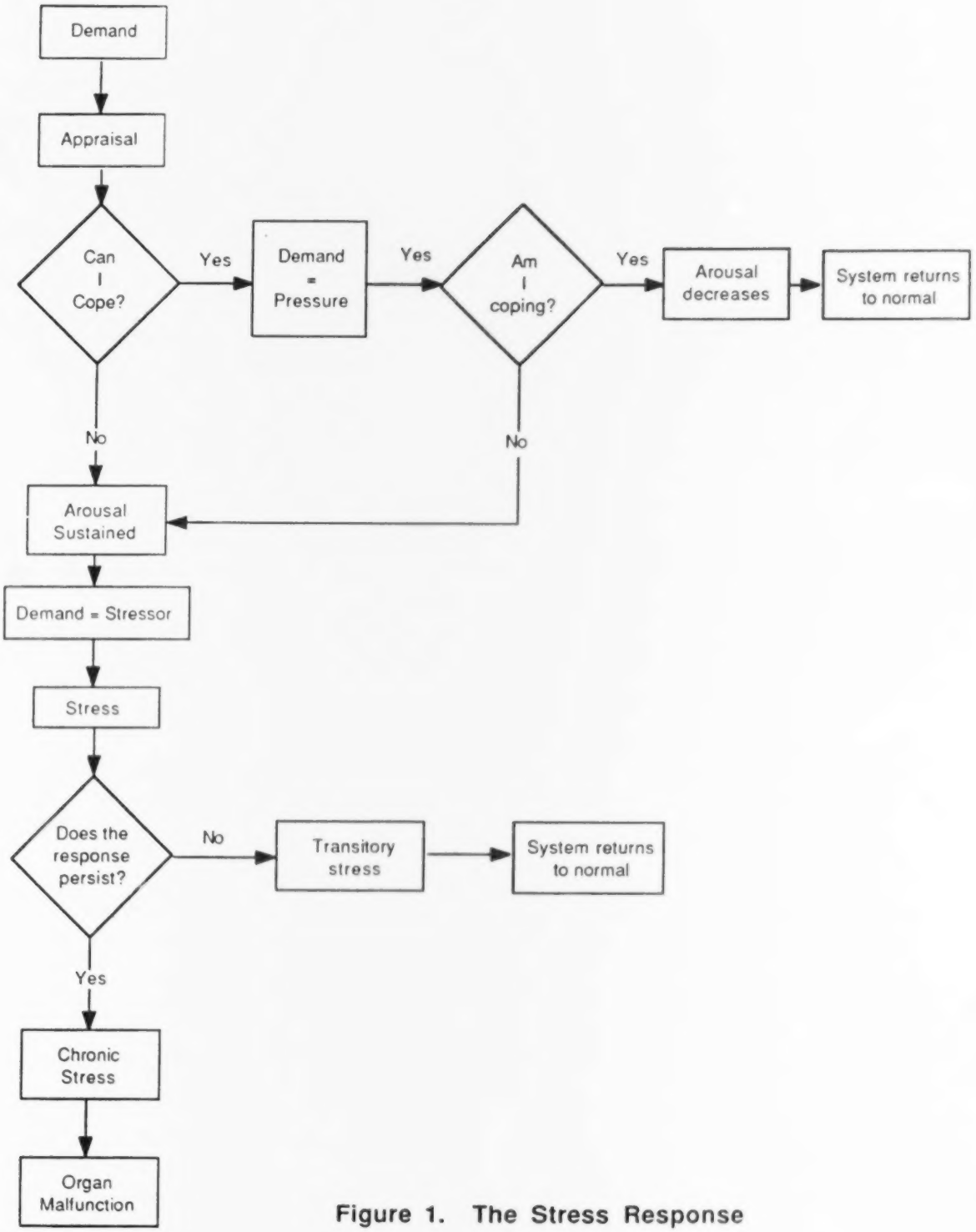

Figure 1. The Stress Response

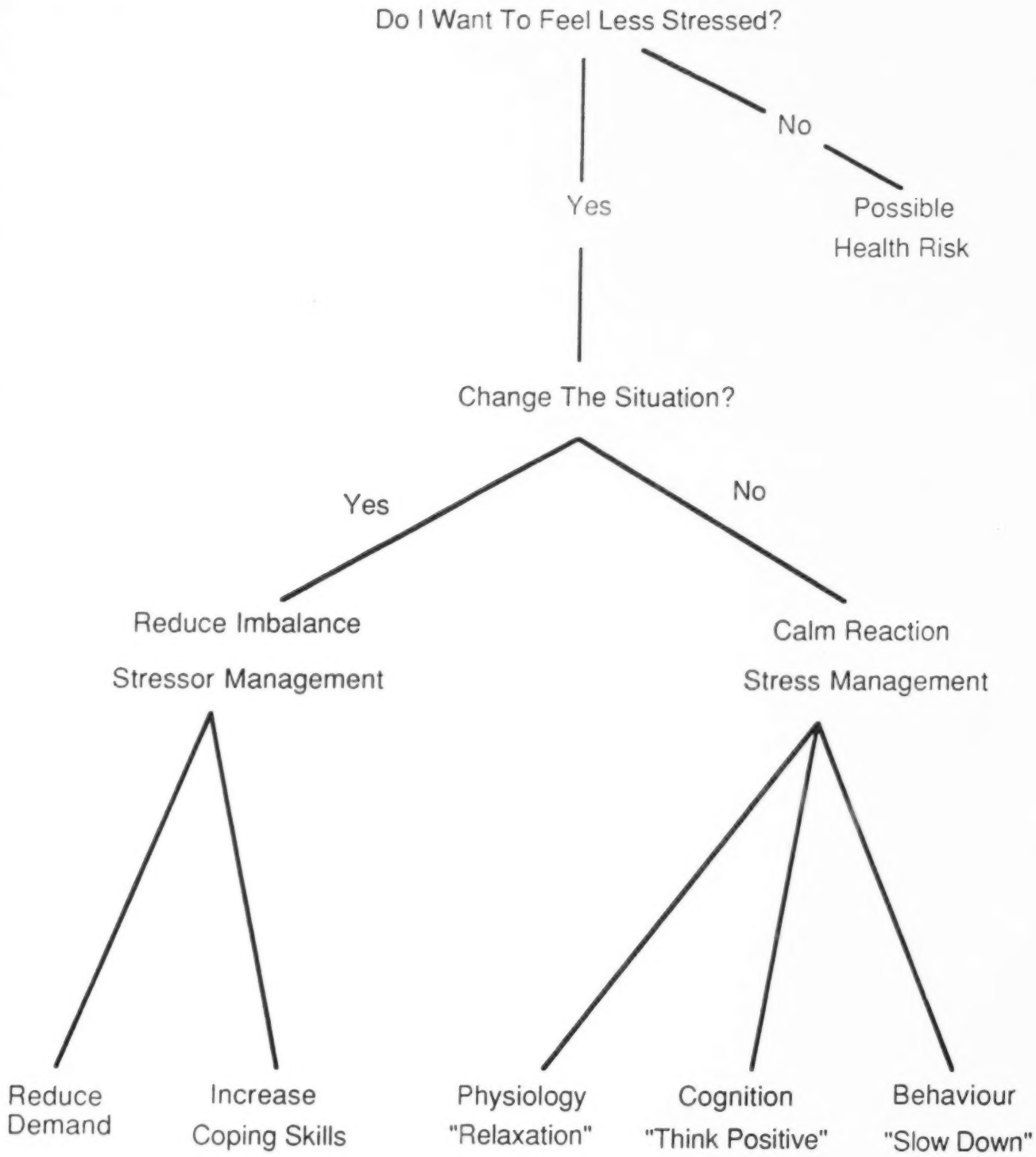

Figure 2. Framework for Stress Control